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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/058,052

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Lawrence Wilcock

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EXAMINER

NUNEZ, JORDANY

ART UNIT

PAPER NUMBER

2179

DATE MAILED: 04/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/058,052	WILCOCK ET AL.	
	Examiner	Art Unit	
	Jordany Núñez	2179	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner: Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

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DETAILED ACTION

Claim Objections

Claims 1, 2, 5, 9, 11, 12, etc are objected to because of the following informalities: The recitations "synthesised" and "synthesise" should be replaced with "synthesized" and "synthesise" respectively. It is incumbent upon applicant to find and replace all instances of the recitations objected to. Appropriate correction is required.

Claims 2, 5, 6, 7, 11, 13, etc are objected to because of the following informalities: The recitations "stabilisation" and "stabilise" should be replaced with "stabilization" and "stabilize" respectively. It is incumbent upon applicant to find and replace all instances of the recitations objected to. Appropriate correction is required.

Claims 2, 8, 13, 16, 19, 22, 25, 28 are objected to because of the following informalities: The recitation "the or each" should be replaced with just the recitation "the" or "each" singly. Appropriate correction is required.

Claims 2, 5, 10, 11, 20, 29 are objected to because of the following informalities: The recitation "the said" should be replaced with just the recitation "the" or "said" singly. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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Claims 1-19, 21-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Courneau et al. (U.S. 5,987,142, hereinafter referred to as Courneau).

As to claim 1, Courneau shows:

An audio user-interfacing method in which items are represented in an audio field (e.g., "vicinity of the user") by corresponding synthesized sound sources from where sounds related to the items appear to emanate (e.g., "localization of a specified sound source") (column 1, lines 18-21), the user being able also to hear real-world sounds (e.g., "threats, warnings") from the environment (column 3, lines 35-41); the method including the step of selectively applying, under user control, a distinctive presentation effect to the item-related sounds emanating from a group of at least one synthesised sound source (e.g. "personalization", column 3, lines 35-41) whereby to assist the user in distinguishing these sounds (column 3, lines 24-28) from said real-world sounds (e.g., any one sound can be distinguished from another, including real-world sounds from synthethized ones).

As to claim 2, Courneau shows:

Wherein the said group of at least one sound source (e.g., "steroponic headphone") is associated with an audio-field reference relative to which the member sound sources of the group are positioned (e.g., "perceived by the listener as if they came from a particular point of space") (column 2, lines 16-27),

the audio-field reference being offset relative to a presentation reference determined by a mounting configuration of audio output devices used to synthesise said sound sources such as to world stabilise the audio-field reference as the user moves (e.g., "as if it is actually coming from behind") (column 2, lines 16-27);

the or each group sound source representing a corresponding augmented reality service that has an associated real-world location (e.g., "pilot of aircraft hears the voice of his copilot") (column 2, lines 16-27), and

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the or each group sound source being positioned relative to the audio field reference such that for a user located in a notional reference position, the sound source lies in the same direction as the associated real-world location (e.g., " may be the actual position") (column 2, lines 16-27).

As to claim 3, Courneau shows:

Wherein said distinctive presentation is a sound effect (column 4, lines 64-67, e.g., "convolution filers").

As to claims 4, 15, 24, Courneau shows:

Wherein said sound effect is at least one of:

volume modulation; pitch modulation; frequency shifting; distortion echo; added noise; added distinction sounds (column 5, lines 41-46).

As to claim 5, Courneau shows:

Wherein the said group of at least one sound source (e.g., "steroptic headphone") is associated with an audio-field reference relative to which the sound sources of the group are positioned (e.g., "perceived by the listener as if they came from a particular point of space") (column 2, lines 16-27),

the audio-field reference being movable relative to a presentation reference determined by a mounting configuration of audio output devices used to synthesise said sound sources (column 3, lines 8-15) such as to impart a particular stabilisation to the audio-field reference as the user moves, this stabilisation giving said distinctive presentation to the group of at least one sound sources (e.g., "as if it is actually coming from behind") (column 2, lines 16-27).

As to claims 6, 17, 26, Courneau shows:

Wherein the audio-field reference is head stabilized (column 3, lines 15-22).

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As to claims 7, 18, 27, Courneau shows:

Wherein the audio-field reference has an underlying stabilisation to which it is periodically updated (column 4, lines 1-6), the audio-field reference between such updating having a stabilisation inherent to the presentation reference (e.g., "may be the actual position of the sound source") (column 2, lines 16-27).

As to claim 8, Courneau shows:

Wherein the or each group sound source represents an augmented reality service that has an associated real-world location (e.g., "pilot of aircraft hears the voice of his copilot"), the or each group sound source being positioned relative to the audio field reference such that for a user located in a notional reference position, the sound source lies in the same direction as the associated real-world location (e.g., "may be the actual position") (column 2, lines 16-27).

As to claim 9, Courneau shows:

Wherein each sound source is associated with one of multiple audio-field references relative to which the associated sound sources are positioned (e.g., "spatialize N2 distinct sources"), the audio-field references being independently movable relative to a presentation reference determined by a mounting configuration of audio output devices used to synthesise said sound sources (e.g. "point from which the sound [...] should seem to come from") (e.g., column 3, lines 15-31),

with movement of a said audio-field reference relative to the presentation reference (e.g., "spatial [...] operation") resulting in corresponding movement of the associated sound sources relative to the presentation reference (e.g., "loudspeaker to be placed at any point") (column 5, lines 7-16);

the user applying a selected said distinctive presentation effect to the group of sound sources associated with an audio-field reference (e.g. "personalization", column 3, lines 24-28) by choosing that group as a whole (column 3, lines 13-15).

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As to claim 10, Courneau shows:

Wherein at least some of the said items represented by the sound sources are audio labels for services, the method further involving selecting a service by selecting the corresponding audio-label sound source.

As to claim 11, Courneau shows:

An audio user-interfacing method in which items are represented in an audio field by corresponding synthesized sound sources from where sounds related to the items appear to emanate (e.g., tones, alarms), the user being able also to hear real-world sounds from the environment (e.g., voice of copilot) (column 2, lines 13-23);

the method involving applying a distinctive presentation effect to the item-related sounds emanating from a group of at least one synthesised sound source (e.g. "personalization", column 3, lines 35-41)

whereby to assist the user in distinguishing these sounds (column 3, lines 24-28) from said real-world sounds (e.g., any one sound can be distinguished from another, including real-world sounds from synthethized ones); the said distinctive presentation being an underlying stabilisation to which the group of sound sources is only periodically updated (column 4, lines 1-6).

As to claim 12, Courneau shows:

Apparatus for providing an audio user interface in which items are represented in an audio field by corresponding synthesized sound sources from where sounds related to the items appear to emanate (e.g., "localization of a specified sound source") (column 1, lines 18-21), the apparatus comprising:

rendering-position determining means for determining, for each said sound source, an associated rendering position at which the sound source is to be synthesized to sound in the audio field (e.g., "spatial coordinates of the point from which the sound given [...] should seem to come from") (figure 1, element 13, column 3, lines 13-23);

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rendering means, including audio output devices, for generating an audio field in which said sound sources are synthesized at their associated rendering positions (e.g., "spatial coordinates of the point from which the sound given [...] should seem to come from") (figure 1, element 13, column 3, lines 13-23),

the audio output devices being such as to permit the user also to hear real-world sounds from the environment (e.g., "threats, warnings") (column 3, lines 35-45); and
distinctive-presentation means for selectively applying, under user control, a distinctive presentation effect to the item-related sounds emanating from a group of at least one synthesised sound source (e.g. "personalization") whereby to assist the user in distinguishing (column 3, lines 24-28) these sounds from said real-world sounds (e.g., any one sound can be distinguished from another, including real-world sounds from synthethized ones).

As to claim 13, 22, Courneau shows:

Wherein the rendering-position determining means comprises:

means for setting the location of the or each group sound source relative to an audio-field reference (e.g., "as if it is actually coming from behind") (column 2, lines 16-27);

means for controlling an offset between the audio field reference and a presentation reference (e.g., sources are spatialized), the presentation reference being determined by a mounting configuration of the audio output devices (e.g., head detector) (column 3, lines 8-15); and

means for deriving the rendering position of the or each group sound source based on its location relative to the audio-field reference and said offset (column 3, lines 15-21);

the or each group sound source representing a corresponding augmented reality service that has an associated real-world location (e.g., " pilot of aircraft hears the voice of his copilot") (column 2, lines 16-27),

the rendering-position determining means being operative to world-stabilise the audio field reference (column 3, lines 15-21) and to position the or each group sound source relative to the audio

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field reference such that for a user located in a notional reference position, the sound source lies in the same direction as the corresponding said real-world location (column 2, lines 20-27).

As to claim 14, 23, Courneau shows:

Wherein said distinctive presentation applied by the distinctive-presentation means is a sound effect (column 3, lines 1-7).

As to claim 16, 25, Courneau shows:

Wherein the rendering-position determining means comprises:

means for setting the location of the or each said group sound source relative to an audio-field reference (e.g., "as if it is actually coming from behind") (column 2, lines 16-27);

means for controlling an offset between the audio field reference and a presentation reference (e.g., sources are spatialized), the presentation reference being determined by a mounting configuration of the audio output devices (e.g., head detector) (column 3, lines 8-15); and

means for deriving the rendering position of the or each group sound source based on its location relative to the audio-field reference and said offset (column 3, lines 15-21);

the rendering-position determining means incorporating said distinctive-presentation means and being operative to impart a particular stabilisation to the audio-field reference as the user moves, this stabilisation giving said distinctive presentation to the group of at least one sound sources (column 3, lines 13-23).

As to claim 19, 28, Courneau shows:

Wherein the or each group sound source represents a corresponding augmented reality service that has an associated real-world location (e.g., "pilot of aircraft hears the voice of his copilot") (column 2, lines 16-27), the rendering-position determining means being operative to world-stabilise the audio field reference and to position the or each group sound source relative to the audio field reference such that

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for a user located in a notional reference position, the sound source lies in the same direction as the corresponding said real-world location (e.g., "may be the actual position") (column 2, lines 16-27).

As to claim 21, Courneau shows:

Apparatus for providing an audio user interface in which items are represented in an audio field by corresponding synthesized sound sources from where sounds related to the items appear to emanate (e.g., "localization of a specified sound source") (column 1, lines 18-21), the apparatus comprising:

a rendering-position determining arrangement operative to determine, for each said sound source, an associated rendering position at which the sound source is to be synthesized to sound in the audio field (e.g., "spatial coordinates of the point from which the sound given [...] should seem to come from") (figure 1, element 13, column 3, lines 13-23);

a rendering subsystem, including audio output devices, arranged to generate an audio field in which said sound sources are synthesized at their associated rendering positions (e.g., "spatial coordinates of the point from which the sound given [...] should seem to come from") (figure 1, element 13, column 3, lines 13-23),

the audio output devices being such as to permit the user also to hear real-world sounds from the environment (e.g., "threats, warnings") (column 3, lines 35-45); and

a distinctive-presentation arrangement operative to selectively apply, under user control, a distinctive presentation effect to the item-related sounds emanating from a group of at least one synthesised sound source (e.g., "personalization") whereby to assist the user in distinguishing these sounds (e.g., "number of sound sources that can be distinguished", column 3, lines 23-30) from said real-world sounds (e.g., "threats, warnings") (column 3, lines 35-45).

References to specific columns, figures or lines should not be limiting in any way. The entire reference provides disclosure related to the claimed invention.

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 20, 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Courneau in view of Singer et al (U.S. 5,889,843, hereinafter referred to as Singer).

As to claim 20, 29:

Courneau shows an apparatus and means substantially as claimed, as specified above.

Courneau fails to specifically show: Wherein at least some of the said items represented by the sound sources are audio labels for services, the apparatus including a selection arrangement for enabling a user to select a service by selecting the corresponding audio-label sound source.

In the same field of invention, Singer teaches: a method and system for audio communication using input sensors. Singer further teaches: Wherein at least some of the said items represented by the sound sources are audio labels (e.g., "auditory space") for services, the apparatus including a selection arrangement for enabling a user to select a service (e.g., "perceivable auditory environment") by selecting the corresponding audio-label sound source (e.g., "based upon [...] auditory space").

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Thus, it would have been obvious to one of ordinary skill in the art, having the teachings of Courneau and Singer at the time that the invention was made, to have combined the at least some of the said items represented by the sound sources being audio labels for services, the apparatus and means including a selection arrangement for enabling a user to select a service by selecting the corresponding audio-label sound source of Singer with the apparatus and means as taught by Courneau.

One would have been motivated to make such combination because a way to add versatility to said apparatus and means would have been obtained and desired.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Slezank [U.S. 6,647,119]

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jordany Núñez whose telephone number is (571)272-2753. The examiner can normally be reached on Monday Through Friday 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Weilun Lo can be reached on (571)272-4847. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JN
4/21/2006

